The role of AIS units in providing information service

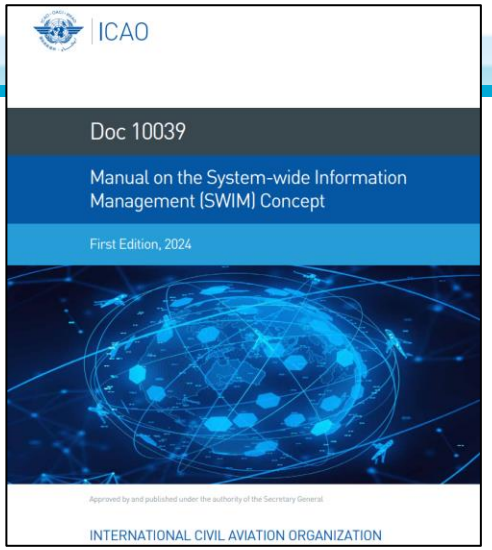
JCAB

Bangkok, Thailand, 19 – 22 May 2026

AAITF/21

What’s SWIM

Background



Manual on System-wide information management Concept（Doc 10039）

FOREWORD

Today’s air traffic management (ATM) system comprises a wide variety of applications developed over time for specific purposes. It is characterized by many custom communication protocols, each with their own self-contained information systems: on board the aircraft, in the air traffic service unit, etc. Each of these interfaces is custom designed, developed, managed, and maintained individually and locally at a significant cost. Moreover, the ways in which ATM information is defined, structured, provided and used are specific to most of the ATM systems.

With the expected growth in aviation demand, economic pressures and attention to environmental impact, the ATM system will be increasingly reliant on accurate and timely information. **Such information must be organized and provided by solutions that support system-wide interoperability and secured seamless information access and exchange.**

Global improvements in information management are needed in order to integrate the ATM network for a performance-enhancing operational scenario. These improvements are envisioned to be applied on a System Wide Information Management (SWIM) basis.

SWIM Scope

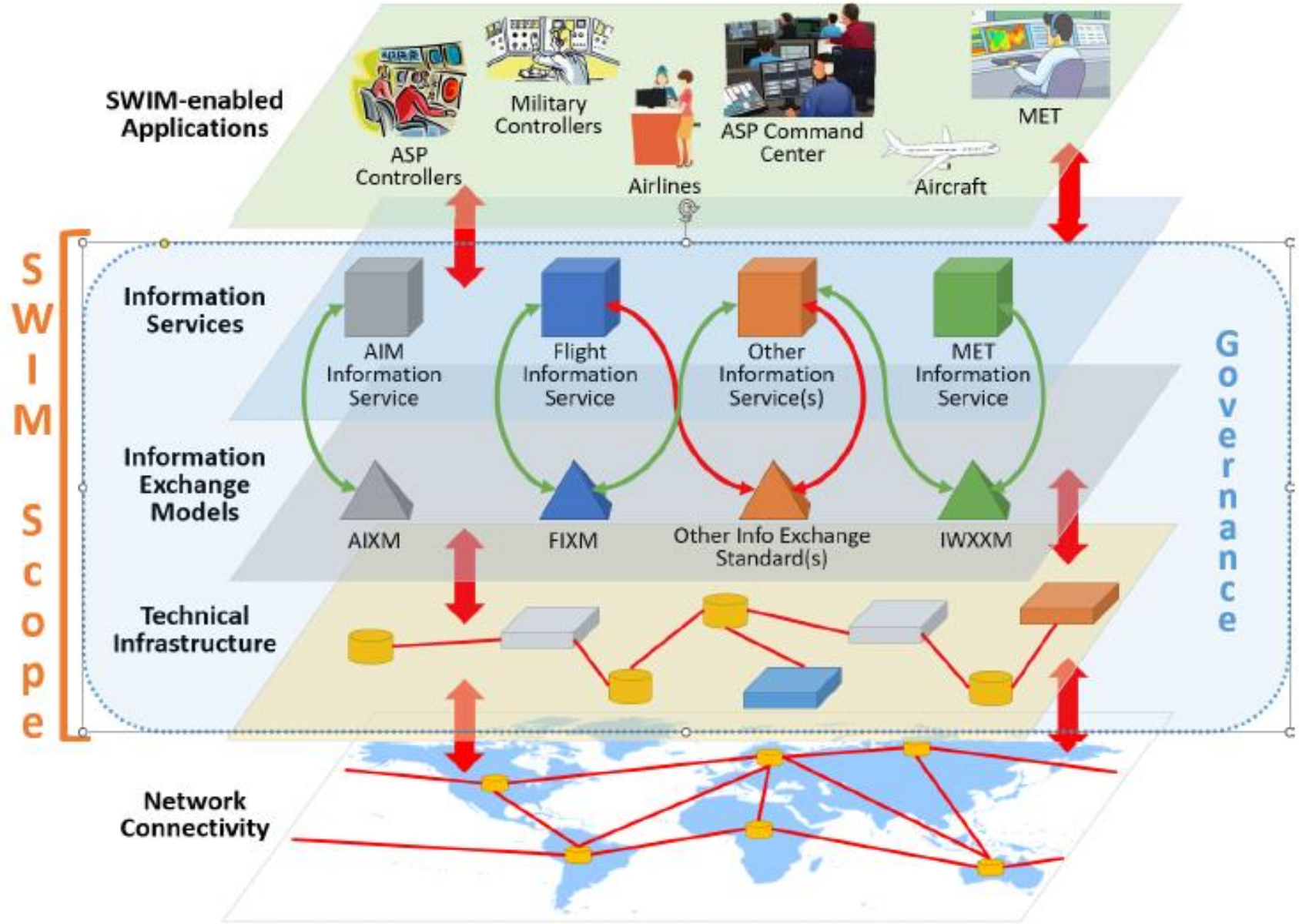


Figure 1-1. SWIM global interoperability framework (GIF) (refer to Doc 10039)

Purpose of SWIM (System-wide information management)

◆**to support decision-making in Air Traffic Management** by establishing the exchange of information system-wide through many-to-many system connection, rather than the conventional one-to-one system connection,

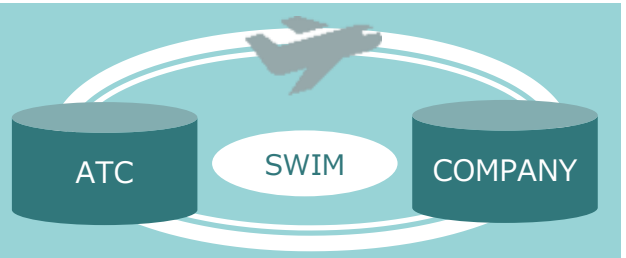
◆to enable to promote the exchange of information **for stakeholders involved in Air Traffic Management**, such as Air Traffic Control organizations, Aircraft operators, and Airport operators, etc. to exchange information that is essential for them to carry out their respective roles.

ATTN!!

SWIM does not indicate to individual devices, but rather to the **concept**, including **governance**, by using an information sharing platform.

Principles for SWIM

Use of interoperable information ser*vices*



Any system can be used

Separation of information provision and information consumption

Who are the service users?
The number of users?
Needs, Future trend?

Service providers should thoroughly understand and organize

Loose coupling

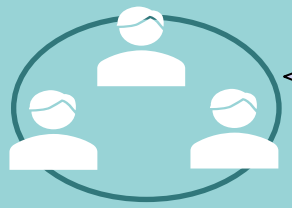
I want to update only a part

Easy to extract! It does not affect other functions

Discoverability

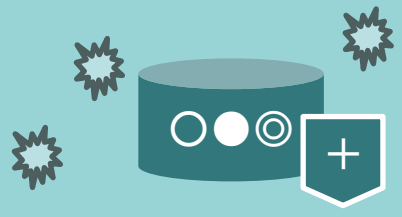
Find it easily!

Use of open standards



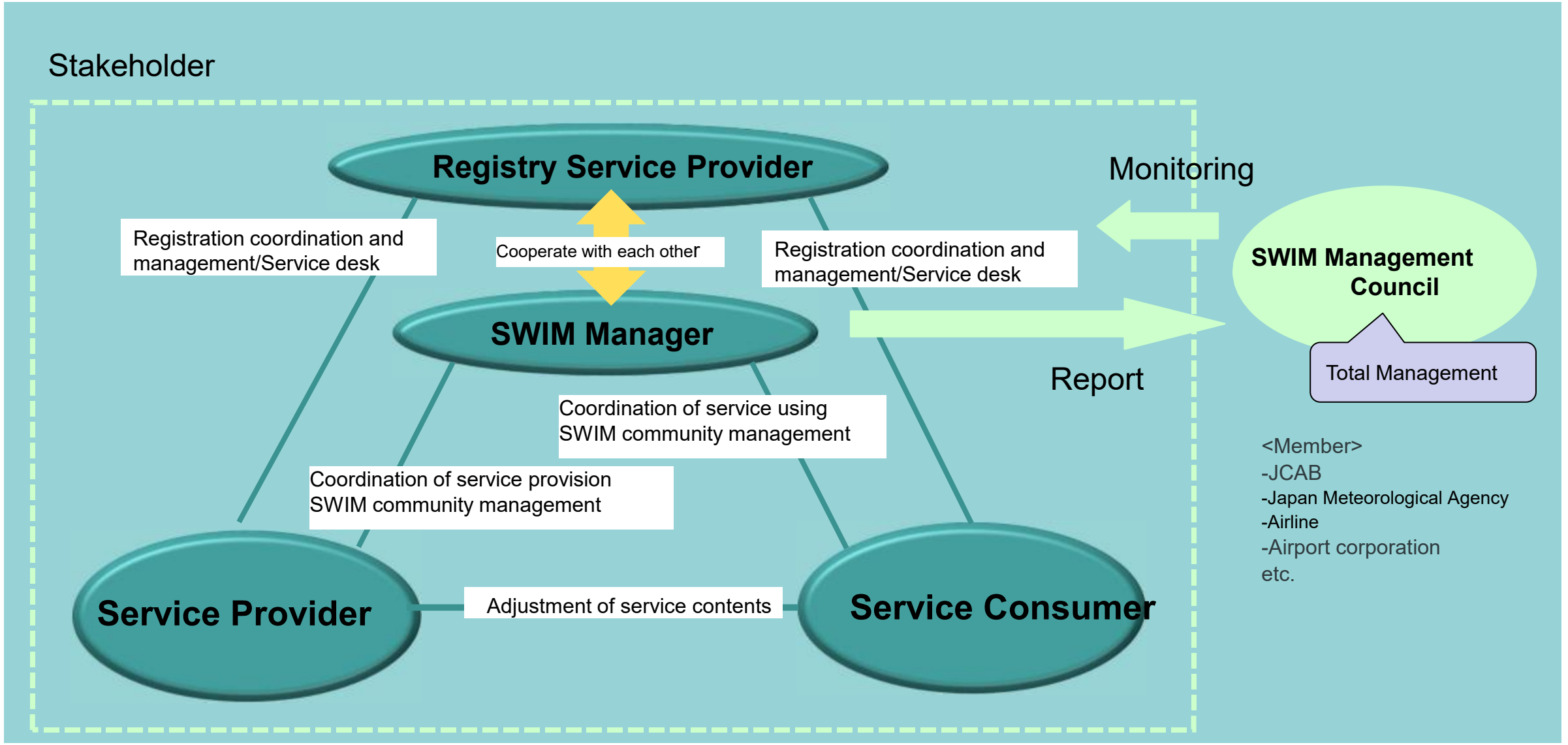
Anyone can use it, The development process is open to the public Everyone can coordinate the content, use, and provision of the service

Secure information exchange

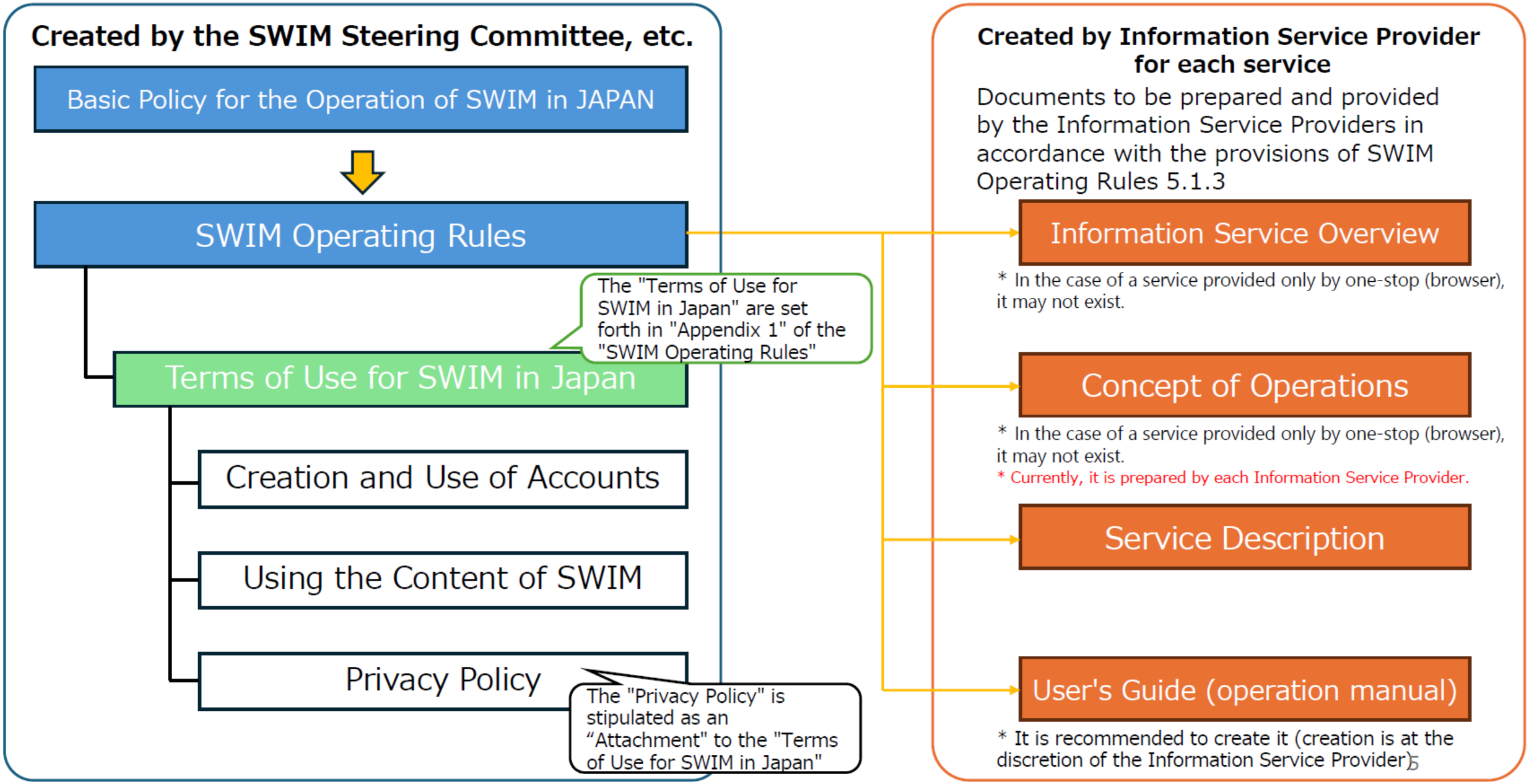


SWIM fundamental stakeholder relationships

The case in Japan



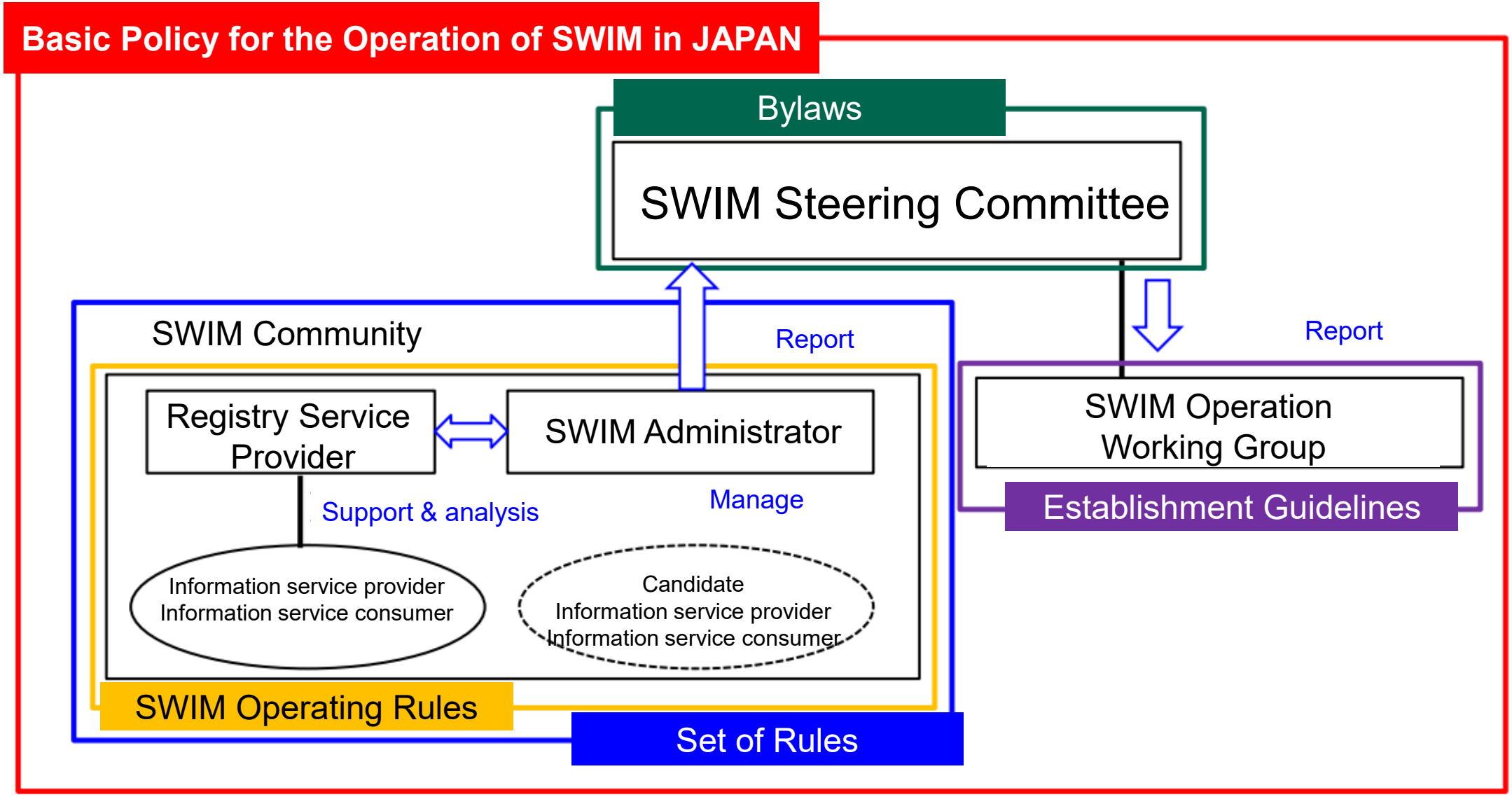
Documents: Structure of SWIM-related Documents



SWIM operation framework

The case in Japan

The SWIM Administrator establish and manage a SWIM Community to endeavor to raise awareness and disseminate information on SWIM and to continue the improvement of SWIM.



～SWIMEE（SWIM Education and Enhancement team）～

(1) Information exchange and interaction among SWIM Community participants
(2) To collect and provide information on SWIM
(3) To promote and develop SWIM
(4) Other activities that contribute to the objectives of the SWIM Community.

Exchange

Communication

Collection

Provision

Promotion

Develop

SWIM Community

The case in Japan

The SWIM Community Administration Office collects opinions, requests, etc. in the SWIM Community and reports the results to the SWIM Steering Committee and the SWIM Steering Working Group.

SWIM community

Collection

Report

SWIM Steering Committee

Role and tasks of AIS

Outline of Aeronautical Information Services via SWIM in Japan

Ref. WP 2.4 (a)(b)

Service Name	Service Overview	Interface	Review Required
Digital NOTAM Registration Service	Registration for issuing Digital NOTAM	Browser, WebAPI	Yes
Digital NOTAM Distribution Service	Distribution of NOTAM in XML based on AIXM5.1.1.	Publish/Subscribe	Yes
Digital NOTAM Request Service	Browsing or retrieving NOTAM in text or XML format based on AIXM5.1.1.	Browser, WebAPI	No (browsing), Yes (WebAPI)
AIP Data Distribution Service (Initial)	Distribution AIP data and Obstacle data in XML based on AIXM5.1.1.	Message-queue(delivery)	Yes
AIP Data Distribution Service (Update)	Distribution of update data on AIP data and Obstacle data in XML based on AIXM5.1.1.	Publish/Subscribe	Yes
AIP File Download Service	Downloading PDF files of AIP, AMDT, SUP, AIC, etc.	Browser	No
AIP Browsing Service	Browsing AIP	Browser	No
Airport Profile Service	Displaying information such as airport operating hours, runways in use, type of approach, sunrise/sunset, ATIS, WX, NOTAM, etc.	Browser	Yes
Airspace Profile Service	Displaying information such as radio navigation facilities, ATS routes, WX, etc.	Browser	No
Package Request Service	Providing aeronautical and meteorological information at once via Web API.	WebAPI	Yes

Service profile and Life cycle

Ref. WP 2.4 (c)

SWIM PORTAL SITE https://top.swim.mlit.go.jp/swim

Life Cycle

product

Operational Status

in operation

Service Description

Document	P2004041.1.0.pdf
Document Type	PDF
Details	This document indicates the contents of Information Services and technical requirements necessary for using Information Services, etc. The English version follows the Japanese version in the same file. Application Form in Service Description: Scroll down this screen to find the Excel version, which you may use.
Last Update	2026/03/11 05:14

SWIM In-Use Services Service Access History

Digital NOTAM Distribution Service

Life Cycle

inspection

Operational Status

pre operation

Start Service

Service Profile

Basic Information

Document

Reference

Service Profile

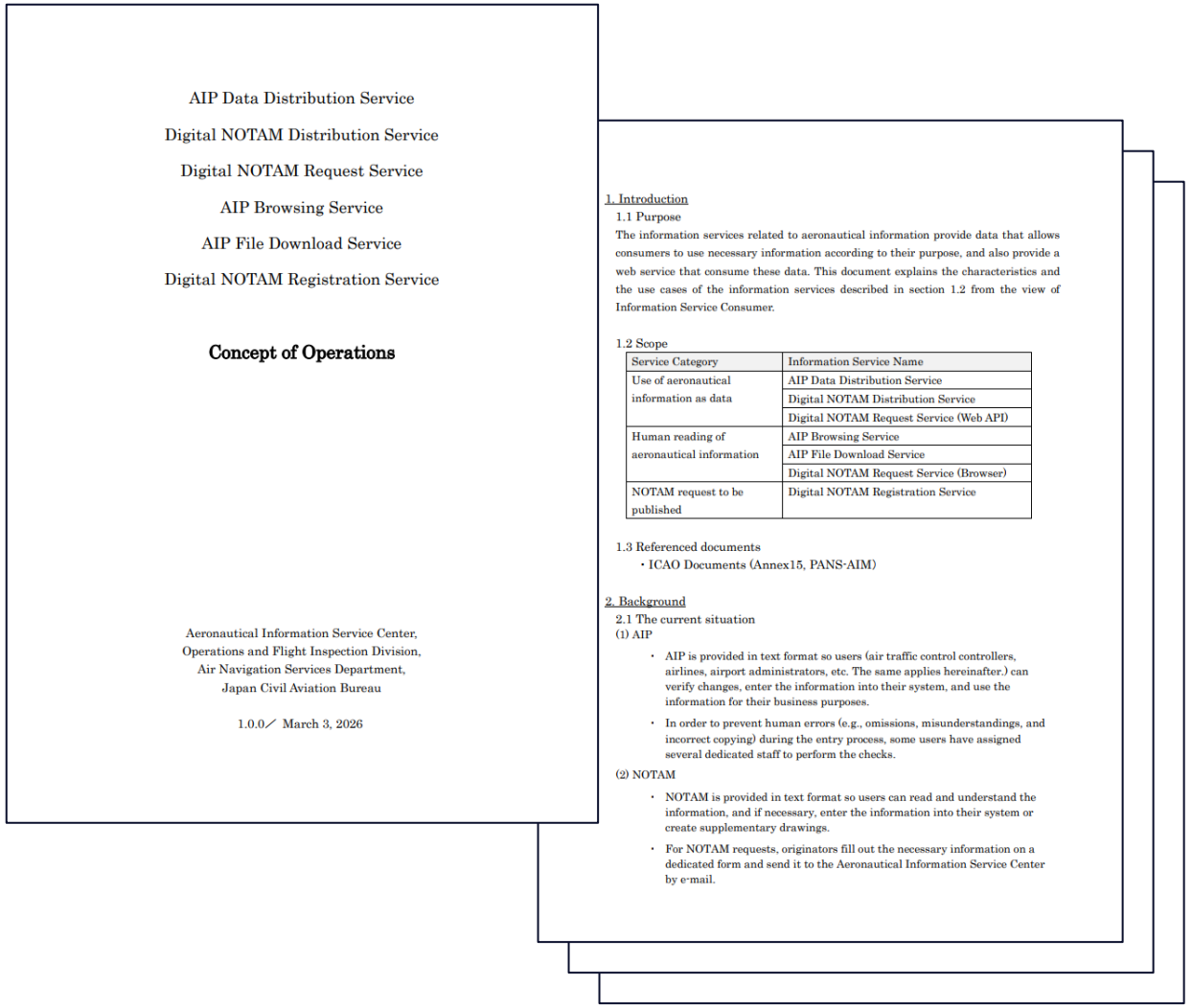
Basic Information

Service Name	Digital NOTAM Distribution Service
Service Details	A service to distribute NOTAM in XML format based on AIXM. *This service is not to browse or retrieve NOTAM. Information Service Overview (Latest version) ---Ver1.1.0 Service Description (Latest version) ---Ver1.1.0 API Integration Specification (Common)(Latest version) ---Ver1.0.1 API Integration Specification (Digital NOTAM Distribution Service)(Latest version) ---Ver1.0.1 Digital NOTAM Specification(Latest version) ---Ver1.0
Service Interface	Pub/Sub

Language Terms of Service Privacy Policy ©Japa

Concept of Operation and Service Description

Ref. WP 2.4 (d) These documents are able to be obtained from SWIM Portal Site.



AIP Data Distribution Service

Digital NOTAM Distribution Service

Digital NOTAM Request Service

AIP Browsing Service

AIP File Download Service

Digital NOTAM Registration Service

Concept of Operations

Aeronautical Information Service Center,
Operations and Flight Inspection Division,
Air Navigation Services Department,
Japan Civil Aviation Bureau

1.0.0／ March 3, 2026

1. Introduction

1.1 Purpose

The information services related to aeronautical information provide data that allows consumers to use necessary information according to their purpose, and also provide a web service that consume these data. This document explains the characteristics and the use cases of the information services described in section 1.2 from the view of Information Service Consumer.

1.2 Scope

Service Category	Information Service Name
Use of aeronautical information as data	AIP Data Distribution Service
	Digital NOTAM Distribution Service
	Digital NOTAM Request Service (Web API)
Human reading of aeronautical information	AIP Browsing Service
	AIP File Download Service
	Digital NOTAM Request Service (Browser)
NOTAM request to be published	Digital NOTAM Registration Service

1.3 Referenced documents

・ICAO Documents (Annex15, PANS-AIM)

2. Background

2.1 The current situation

(1) AIP

- AIP is provided in text format so users (air traffic control controllers, airlines, airport administrators, etc. The same applies hereinafter.) can verify changes, enter the information into their system, and use the information for their business purposes.
- In order to prevent human errors (e.g., omissions, misunderstandings, and incorrect copying) during the entry process, some users have assigned several dedicated staff to perform the checks.

(2) NOTAM

- NOTAM is provided in text format so users can read and understand the information, and if necessary, enter the information into their system or create supplementary drawings.
- For NOTAM requests, originators fill out the necessary information on a dedicated form and send it to the Aeronautical Information Service Center by e-mail.

AIP Data Distribution Service

Service Description

Aeronautical Information Service Center,
Operations and Flight Inspection Division,
Air Navigation Services Department,
Japan Civil Aviation Bureau

1.1.0／March 4, 2026

1. Purpose

This Service Description describes the procedures for use and the technical information on AIP Data Distribution Service in accordance with SWIM Operating Rules.

2. Referenced Documents

+ ICAO ANNEX15 Aeronautical Information Services
+ AIXM5.1.1

3. Terms and Abbreviations

+ AIXM: Aeronautical Information Exchange Model

4. Procedures for using the service

(1) Targets of Information Service Consumers and additional information

+ Air traffic control organization, Aircraft operators, Airport administrators, the persons concerned with air traffic management, and those who are deemed necessary by the Information Service Provider.
+ Additional information : Application Form as specified in attachment.

(2) Procedures and period for using the service

+ The flow for procedures for using the service is as shown in "Flowchart of procedures for using the Information Service" as specified in attachment.
+ After applying for the service, promptly submit the additional information listed in (1).
+ The period from the application for the use of information service to the approval standardly takes about two weeks, and may vary depending on the adjustment situation.

(3) Conditions of use for service

+ The applicant is not a registered user or a user whose approval has been revoked in the past.
+ The application is not be incomplete or contain any false information.
+ The applicant can prove that they are the target of the Information Service Consumer.
+ The applicant can respond to inquiries from Information Service Provider.

(4) Notes on system integration

+ The connection line is an Internet line and security requirements are not required.

Web-browser-based Services

Ref. WP 2.4 (e)